

UNIVERSITI SAINS MALAYSIA

**Peperiksaan Semester Pertama
Sidang Akademik 2002/2003**

September 2002

ESA 371 – Elemen Sub-sistem Kapal Terbang

Masa : [3 Jam]

ARAHAN KEPADA CALON :

1. Sila pastikan bahawa kertas peperiksaan ini mengandungi **(10) SEPULUH** mukasurat bercetak dan **(9) SEMBILAN** soalan.
2. Jawab **(3) TIGA** soalan.
Soalan 1 **WAJIB** dijawab.
Pilih **(2) DUA** soalan daripada soalan 2 hingga soalan 9.
3. Agihan markah bagi setiap soalan diberikan di sut sebelah kanan.
4. Satu soalan **Wajib** dijawab dalam Bahasa Melayu.
5. Mesin kira bukan yang boleh diprogram boleh digunakan.

1. (a) Bagi sebarang jenis pesawat (pilihan anda), berikan
For any type of aircraft (on your choice), please provide
 - (i) Spesifikasi misi
Mission Specifications
 - (ii) Keperluan teknikal
Technical Requirements

(10 markah/marks)
- (b) Seterusnya berikan juga,
Please provide also .
 - (i) Pandangan keseluruhan pesawat berdasarkan bentangan
asas
Aircraft overall view with elementary layout
 - (ii) Komposisi dan kegunaan sistem peralatan atas papan dalam
pesawat
*Composition and purpose of the onboard equipment
systems.*
 - (iii) Saiz anak kapal dan fungsinya.
Crew size and functions.

(90 markah/marks)

2. (a) Bagi sebarang pesawat penumpang (pilihan anda), berikan
For any passenger aircraft (on your choice), please provide
- (i) Keperluan teknikal
Technical Requirements (5 markah/marks)
 - (ii) Pandangan keseluruhan pesawat berdasarkan bentangan asas
Aircraft overall view with elementary layout. (15 markah/marks)
- (b) Berikan juga pandangan keseluruhan sistem peralatan tempat penumpang dan terangkan perkara yang berikut:
Please provide also, the overview of the passenger compartment equipment systems and explain the following:
- (i) Kegunaannya
 - (ii) Sistem fizikal
 - (iii) Operasi am
 - (iii) Kedudukan komponen utama
 - (iv) Sifat sub-sistem secara umum
 - (v) Contoh unit struktur
 - (vi) Sistem antara muka.
- (i) *Its purpose.*
 - (ii) *The system physical description.*
 - (iii) *The general operation.*
 - (iv) *The main components location.*
 - (v) *The general sub-system features.*
 - (vi) *The examples of structural units.*
 - (vii) *The system Interface.*
- (80 markah/marks)

3. (a) Bagi sebarang jenis pesawat (pilihan anda), berikan
For any type of aircraft (on your choice), please provide
- (i) Keperluan teknikal
Technical Requirements (5 markah/marks)
- (ii) Pandangan keseluruhan pesawat berdasarkan bentangan asas
Aircraft overall view with elementary layout. (15 markah/marks)
- (b) Berikan juga pandangan keseluruhan sistem peralatan tempat anak kapal dan terangkan perkara yang berikut:
Please provide also, the overview of the crew compartment equipment systems and explain the following:
- (i) Kegunaannya
(ii) Sistem fizikal
(iii) Operasi am
(iii) Kedudukan komponen utama
(iv) Sifat sub-sistem secara umum
(v) Contoh unit struktur
(vi) Sistem antara muka.
- (i) *Its purpose.*
(ii) *The system physical description.*
(iii) *The general operation.*
(iv) *The main components location.*
(v) *The general sub-system features.*
(vi) *The examples of structural units.*
(vii) *The system Interface.* (80 markah/marks)

4. (a) Bagi sebarang jenis pesawat tentera (pilihan anda), berikan
For any type of military aircraft (on your choice), please provide
- (i) Keperluan teknikal
Technical Requirements (5 markah/marks)
- (ii) Pandangan keseluruhan pesawat berdasarkan bentangan asas
Aircraft overall view with elementary layout. (15 markah/marks)
- (b) Berikan juga pandangan keseluruhan sistem peralatan khusus (tentera),
 dan terangkan perkara yang berikut:
*Please provide also, the overview of the special (military) equipment systems
 and explain the following:*
- (i) Kegunaannya
 (ii) Sistem fizikal
 (iii) Operasi am
 (iii) Kedudukan komponen utama
 (iv) Sifat sub-sistem secara umum
 (v) Contoh unit struktur
 (vi) Sistem antara muka.
- (i) *Its purpose.*
 (ii) *The system physical description.*
 (iii) *The general operation.*
 (iv) *The main components location.*
 (v) *The general sub-system features.*
 (vi) *The examples of structural units.*
 (vii) *The system Interface.* (80 markah/marks)

5. (a) Bagi sebarang jenis pesawat (pilihan anda), berikan
For any type of aircraft (on your choice), please provide
- (i) Keperluan teknikal
Technical Requirements
(5 markah/marks)
- (ii) Pandangan keseluruhan pesawat berdasarkan bentangan asas
Aircraft overall view with elementary layout.
(15 markah/marks)
- (b) Berikan juga pandangan keseluruhan sistem penyaman udara dan terangka
 perkara yang berikut:
Please provide also, the overview of the air conditioning system and explain the following:
- (i) Kegunaannya
 (ii) Sistem fizikal
 (iii) Operasi am
 (iii) Kedudukan komponen utama
 (iv) Sifat sub-sistem secara umum
 (v) Contoh unit struktur
 (vi) Sistem antara muka.
- (i) *Its purpose.*
 (ii) *The system physical description.*
 (iii) *The general operation.*
 (iv) *The main components location.*
 (v) *The general sub-system features.*
 (vi) *The examples of structural units.*
 (vii) *The system Interface.*
(80 markah/marks)

6. (a) Bagi sebarang jenis pesawat (pilihan anda), berikan
For any type of aircraft (on your choice), please provide
- (i) Keperluan teknikal
Technical Requirements
(5 markah/marks)
 - (ii) Pandangan keseluruhan pesawat berdasarkan bentangan asas
Aircraft overall view with elementary layout.
(15 markah/marks)
- (b) Berikan juga pandangan keseluruhan sistem peruntukan keselamatan
 kecemasan dan terangkan perkara yang berikut:
*Please provide also, the overview of the emergency safety provision system
 and explain the following:*
- (i) Kegunaannya
 - (ii) Sistem fizikal
 - (iii) Operasi am
 - (iii) Kedudukan komponen utama
 - (iv) Sifat sub-sistem secara umum
 - (v) Contoh unit struktur
 - (vi) Sistem antara muka.
- (i) *Its purpose.*
 - (ii) *The system physical description.*
 - (iii) *The general operation.*
 - (iv) *The main components location.*
 - (v) *The general sub-system features.*
 - (vi) *The examples of structural units.*
 - (vii) *The system Interface.*
- (80 markah/marks)

7. (a) Bagi sebarang jenis pesawat (pilihan anda), berikan
For any type of aircraft (on your choice), please provide
- (i) Keperluan teknikal
Technical Requirements (5 markah/marks)
- (ii) Pandangan keseluruhan pesawat berdasarkan bentangan asas
Aircraft overall view with elementary layout. (15 markah/marks)
- (b) Berikan juga pandangan keseluruhan sebarang sistem perlindungan daripada kesan berbahaya dan terangkan perkara yang berikut:
Please provide also, the overview of the any protective system from hazardous effect and explain the following:
- (i) Kegunaannya
(ii) Sistem fizikal
(iii) Operasi am
(iii) Kedudukan komponen utama
(iv) Sifat sub-sistem secara umum
(v) Contoh unit struktur
(vi) Sistem antara muka.
- (i) *Its purpose.*
(ii) *The system physical description.*
(iii) *The general operation.*
(iv) *The main components location.*
(v) *The general sub-system features.*
(vi) *The examples of structural units.*
(vii) *The system Interface.* (80 markah/marks)

8. (a) Bagi sebarang jenis pesawat (pilihan anda), berikan
*For **any type of aircraft** (on your choice), please provide*
- (i) Keperluan teknikal
Technical Requirements (5 markah/marks)
- (ii) Pandangan keseluruhan pesawat berdasarkan bentangan asas
Aircraft overall view with elementary layout. (15 markah/marks)
- (b) Berikan juga pandangan keseluruhan sebarang sistem kawalan penerbangan dan pandu arah dan terangkan perkara yang berikut:
*Please provide also, the overview of the **flight control and navigation system** and explain the following:*
- (i) Kegunaannya
(ii) Sistem fizikal
(iii) Operasi am
(iii) Kedudukan komponen utama
(iv) Sifat sub-sistem secara umum
(v) Contoh unit struktur
(vi) Sistem antara muka.
- (i) *Its purpose.*
(ii) *The system physical description.*
(iii) *The general operation.*
(viii) *The main components location.*
(ix) *The general sub-system features.*
(x) *The examples of structural units.*
(xi) *The system Interface.*

(80 markah/marks)

9. (a) Bagi sebarang jenis pesawat (pilihan anda), berikan
For any type of aircraft (on your choice), please provide
- (i) Keperluan teknikal
Technical Requirements (5 markah/marks)
 - (ii) Pandangan keseluruhan pesawat berdasarkan bentangan asas
Aircraft overall view with elementary layout. (15 markah/marks)
- (b) Berikan juga pandangan keseluruhan sebarang sistem penjanaan kuasa, terangkan perkara yang berikut:
Please provide also, the overview of the any power generation system and explain the following:
- (i) Kegunaannya
 - (ii) Sistem fizikal
 - (iii) Operasi am
 - (iv) Kedudukan komponen utama
 - (v) Sifat sub-sistem secara umum
 - (vi) Contoh unit struktur
 - (vii) Sistem antara muka.
- (i) *Its purpose.*
 - (ii) *The system physical description.*
 - (iii) *The general operation.*
 - (iv) *The main components location.*
 - (v) *The general sub-system features.*
 - (vi) *The examples of structural units.*
 - (vii) *The system Interface.*

(80 markah/marks)